

June 2014 Status Report and Proposal For EIC Calorimeter Development

The EIC Calorimeter R&D Consortium

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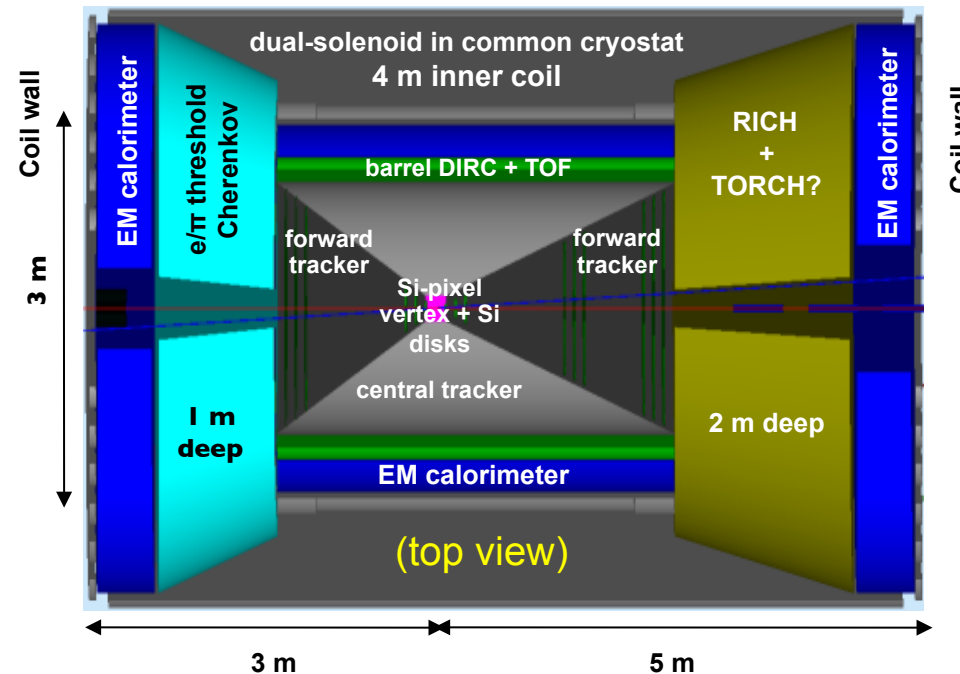
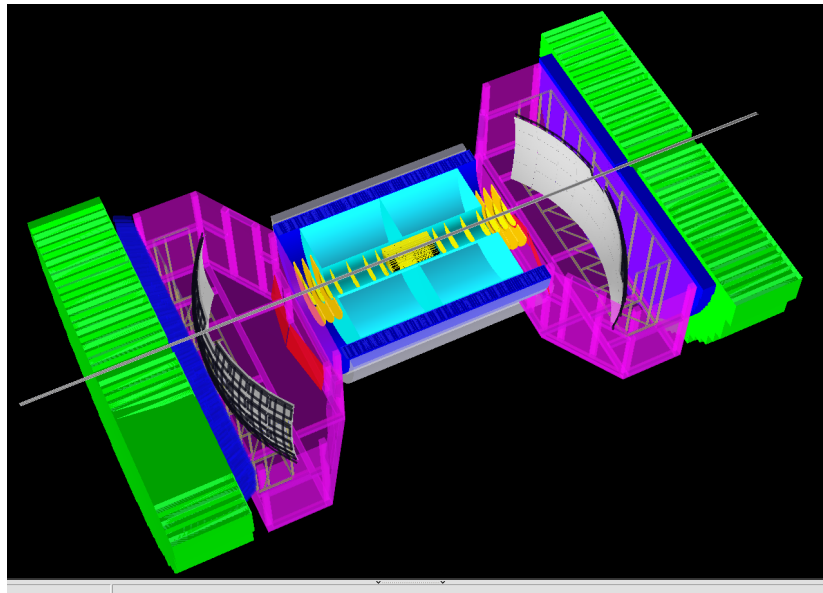
Conceptual designs of EIC detectors.

Electron Ion Collider Users Meeting. SBU June 24-27

Conceptually, all of them look the same and similar to detector we are operating now, but details may be quite different...

Similarity due to Physics and IR design and Cost considerations.

Differences due to particular choice of technologies for a differently colored blocks in these conceptual designs.



Calorimeters:

Full Coverage,
Hermetic.

Compact.

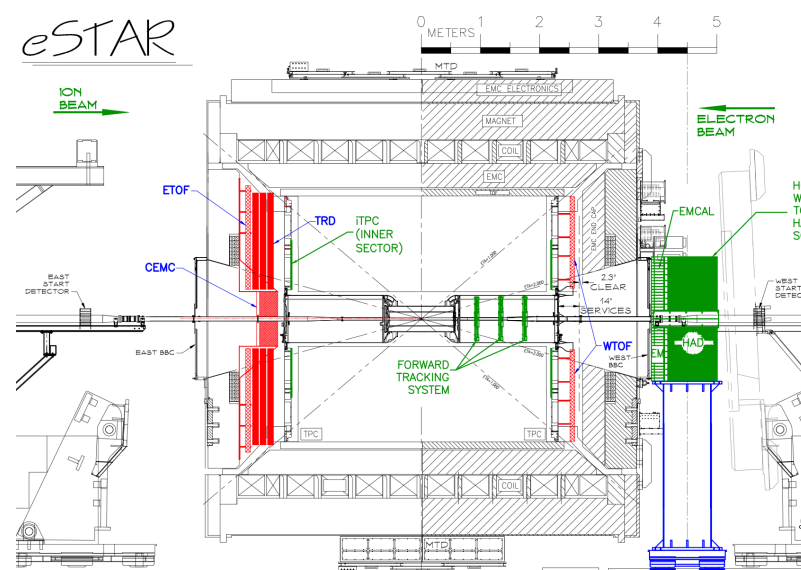
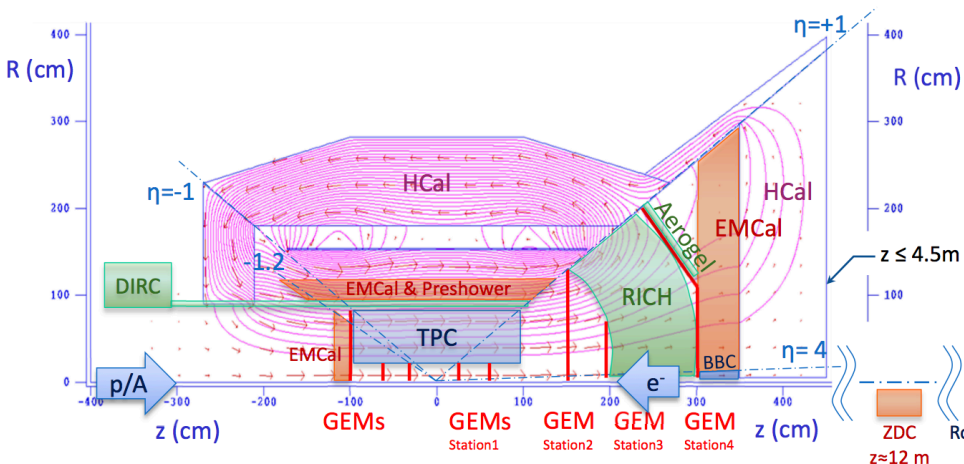
Operate in the
magnetic field.

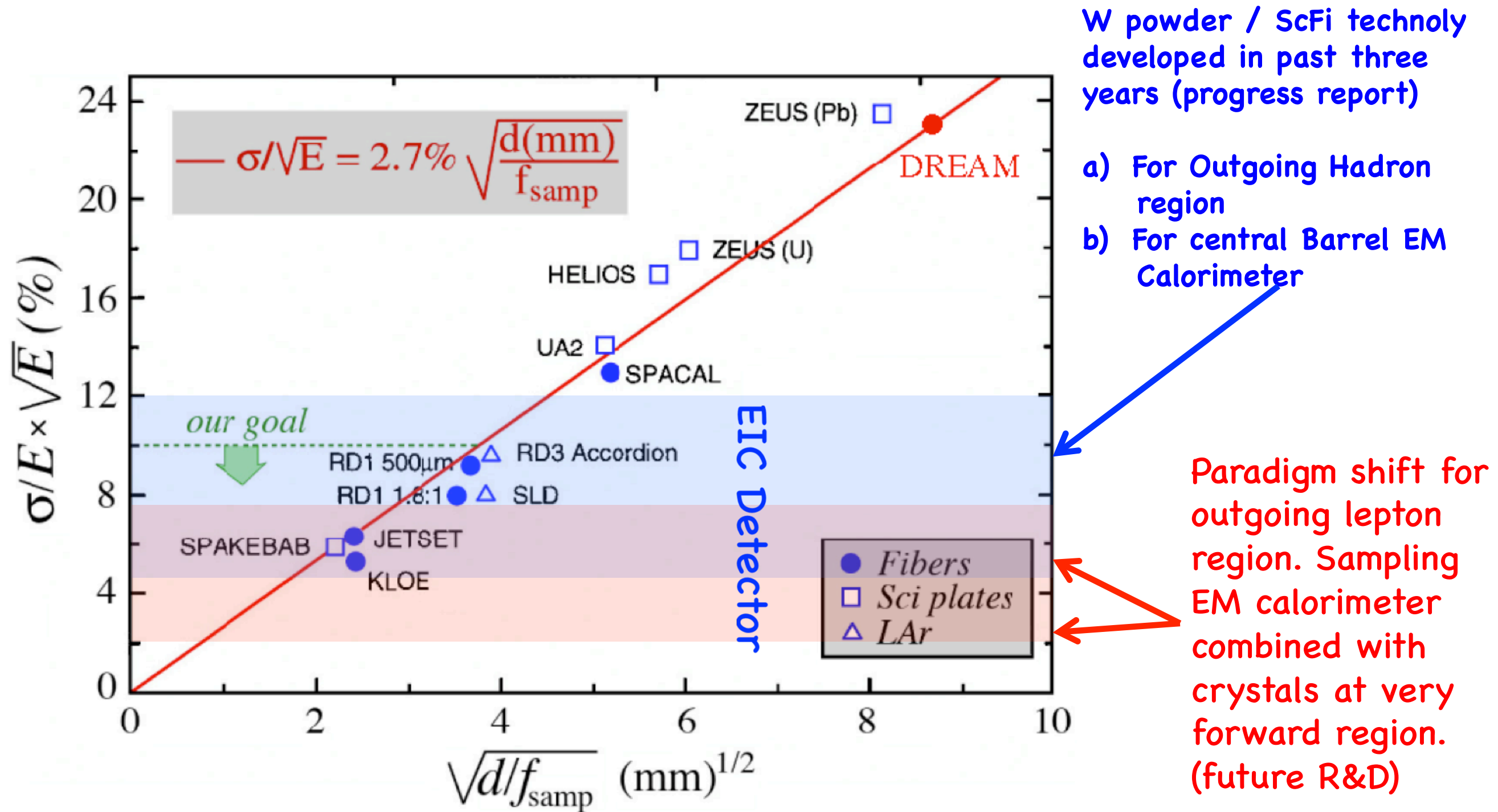
Good energy
resolution.

Good EM+HAD
Performance.

Fast.

Affordable.





Summary:

Calorimeter Consortium proposed R&D efforts:

- Monte Carlo Simulations: global detector optimization, instrumental effects, radiation environment.
- Crystals. BSO and new PWO crystals from Crytur.
- Compact readout for central and outgoing hadron EM calorimeters.
- Sampling calorimeters for outgoing lepton region.
- Radiation hardness of sensors and crystals.
- Test runs at CERN and FNAL.

Combined Budget Table for FY15 only?